

THE CHESTNUT CANKER

BY WILLIAM A. MURRILL

Nearly two years have elapsed since I gave the readers of *TORREYA* a brief account of the appearance and life history of this serious fungus disease of our native chestnut and characterized the fungus under the name *Diaporthe parasitica*. Since that time the disease has been reported from many additional localities, and numerous inquiries have been made regarding its nature and treatment.

The origin of the disease and the center of its distribution are still entirely unknown, while the area of its distribution is known very imperfectly as yet and can be determined accurately only by careful field explorations conducted by competent persons. The amount of damage done by it, in and about New York city, where it has been most carefully observed, probably reaches a total of between five and ten million dollars. Of the numerous splendid chestnut trees that once existed in the parks, woodlands, and country estates of this region, it would be difficult to find to-day a hundred perfectly healthy trees; dead trees have been cut by the hundreds during the last two years and the rest will undoubtedly meet the same fate.

Field studies indicate that the chestnut canker is spreading rapidly. The summer spores are so minute and are produced so continuously and abundantly throughout the growing season that rapid distribution by the wind and other agencies is to be expected.

Not only the native chestnut, but also the European and Japanese species, frequently planted in this country, and the chinquapin, growing naturally from New Jersey southward, are known to be subject to its attack. If the disease continues as it has begun, there is, theoretically, no reason apparent why it should not sweep from the country practically every tree, both native and cultivated, of the genus *Castanea*. Let us hope, however, that, in the economy of nature, something will intervene to prevent this.

In the meantime, concerted effort should be made to determine the actual spread of the disease and to prevent its introduction into new localities in this country and in Europe through diseased nursery stock. Affected trees are doomed. There is no treatment except pruning away affected parts, and these are rarely discovered in time to save the tree. Pruning always opens up new points of infection, in addition to the pruning wounds, by causing the death of certain areas that are thus deprived of nutriment. Infection by natural means is also liable to take place at any time.

A careful inspection of several hundred infected trees of all sizes recently cut showed conclusively that pruning with a view to saving the tree is futile. Many of these trees had been carefully pruned with this in mind for two or three years, apparently without the slightest effect. The number of separate infections counted, on young trees as well as old, was remarkable, reaching twenty-five or more in some cases. In many cases, where the disease was more advanced, trunks from two to five feet in diameter were found affected throughout their entire extent from top to base, branches included, the fungus showing in the cracks of the bark on all the older portions and in the lenticels of the younger twigs. A year or two later, the bark sloughs off, leaving the wood white and naked and entirely unaffected by the fungus.

Owners of individual affected trees of large size are advised not to attempt to save them, but to prune away affected branches for the sake of appearance only, until the tree ceases to be an ornament. In the case of a few young trees on the home grounds, careful pruning of affected branches might be tried as a preventive, but I can hold out little hope of success.

It need hardly be said that the planting of any species of chestnut at this time in the affected area would be attended with great risk. Owners of chestnut timber should make use of it at once, thus clearing the woodlands of the sources of infection and giving young trees of other kinds an opportunity to develop.